*Environmental Engineering and Management Journal*

*January 2011, Vol.10, No. 1, 81-88*
*http://omicron.ch.tuiasi.ro/EEMJ/*

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# CHEMICAL RISK ANALYSIS FOR LAND-USE PLANNING. I. STORAGE AND HANDLING OF FLAMMABLE MATERIALS

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**Abstract**

Technological accidents caused the loss of many human lives, the major pollution of the environment and significant financial losses. These accidents can be categorized in three major classes: fires, explosions and toxic releases. The prevention of technological accidents can be made in two ways, on one hand with technological improvements, on the other hand with legislative regulations. According to EU legislation Land-Use Planning is necessary and essential study for Seveso-type sites. Four years after the adhesion of Romania to the EU there is still missing a common risk analysis methodology which could be used for Land-Use Planning purpose. This paper (part one) opens a series of three papers proposing a risk assessment methodology and guidance limits for the estimation of physical effects of fires (in part one), and calculation of safety distances for Land-Use Planning for Seveso-type sites. With this purpose, different case studies were considered with technological accidents involving flammable hazardous materials. In this first part heat radiations from different types of fires were studied and physical effects and safety distances were calculated. Several methodologies applied in the EU member states were approached, while the proposed methodology is based on the results of this research.

*Key words:* consequences, flammable, heat radiation, land-use planning, risk assessment

*Received: November, 2010; Revised final: January, 2011; Accepted: January, 2011*

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